

# A LOW THERMAL BUDGET (MOL) LINER, A SEMICONDUCTOR DEVICE COMPRIS- ING SAID LINER AND METHOD OF FORMING SAID SEMICONDUCTOR DE- VICE

## Abstract

The present invention is directed to a low thermal budget MOL liner to be used in the fabrication of a semiconductor device. The low thermal budget MOL liner of the present invention, which is formed by treating a titanium-deposited layer with an in-situ plasma nitridization step, results in a significantly improved high performance device as the need for the higher thermal annealing process presently used in the making of such devices can be avoided. The present invention is further directed to a method of making the resulting semiconductor device, as well as the semiconductor device itself.